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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,645	05/01/2001	Tom Milner	10004560-1	4840

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

SCHNEIDER, JOSHUA D

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,645

Applicant(s)

MILNER ET AL.

Examiner

Joshua D Schneider

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/8/2003 have been fully considered but they are not persuasive. With regards to claim 13, as Applicant has argued that API does not need a description, as it is software. However, although the API may be well known as admitted by the Applicant, the function of the software must still be described, as required by under 35 U.S.C. 112, first paragraph, and in the citation of the Applicant. There is no place in the specification where there is a description of how the API is used to obtain information.
2. With regards to claims 1-20, rejected under 35 U.S.C. 102(e) as being anticipated and 35 U.S.C. 103(a) as being unpatentable, Applicant has argued repeatedly that U.S. Patent 6,122,639 to Babu et al. does not teach everything that is stated in the rejections. With regards to claim 1, Applicant states that Babu does not appear to disclose determining the type of a device through any defined method, but rather merely discloses obtaining a device type identifier from the device. This argument is not found to be persuasive. The examiner fails to see how the obtaining of a device type identifier is not a method of determining the type of device. This argument is repeated for claims 7, 9, 14, and 18.
3. With further regards to claims 1-20, Applicant has argued that the determination of the device type in Babu cannot be a determination of the type of device, because the device type is already known. First, the Applicant has provided no support for this argument, but rather simply sets forth the statement. Second, Babu does provide evidence repeatedly in the background and summary of invention that the device discovery process is set forth to determine the type of

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device. Finally, it is irrelevant whether the device type is known previous to the determination of the type of device.

4. In conclusion, the Applicant addresses the statement in the rejection that various elements in certain claims are well known in the art. It is first noted that the applicant has admitted that the claim language of the various claims is not patentably different in reply the restriction of paper number 4, and must therefore be obvious in view of one another. Under MPEP 2144.03, the Applicant has requested support for what was found to be well known in the art. In support the contents of C++ How to Program by Deitel and Deitel, including chapter 4 on arrays, chapter 5 on pointers, chapters 6 and 7 on classes, and chapter 15 on data structures, is offered.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant fails to describe an application programming interface (API) in such a manner that one skilled in the art would use the API to obtain information.

7. All further rejections and objections are made in light of the specification as best understood in view of the previous objections and rejections.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 1 and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,122,639 to Babu et al. With regards to claim 1, Babu et al. teaches retrieving device information from a device associated with said I/O path utilizing a device control protocol (column 2, lines 64-65), retrieving a property file defining a type of device, and executing code associated with said property file, wherein said code is operable to determine whether said device is said type of device utilizing in part said retrieved device information (column 2, line 65, through column 3, line 10).
10. With regards to claim 5, Babu et al. teaches SNMP devices are well known in the art, and teaches the step of retrieving an SNMP system object identifier (column 3, lines 45-47).
11. With regards to claim 6, Babu et al. teaches querying the device to determine whether said device is said type of device (column 2, line 65, through column 3, line 10, and column 3, lines 45-47).
12. With regards to claim 7, Babu et al. teaches at least one processor for executing code (Fig. 5), means for defining a type of device (column 1, lines 46-55), means for obtaining device information associated with an I/O path (column 2, lines 64-65), and determining whether said device associated with said I/O path is said type of device utilizing in part said device

information obtained by said means for obtaining and information obtained from said means for defining (column 2, line 65, through column 3, line 10).

13. With regards to claim 8, Babu et al. teaches assigning a unique identifier for the device (column 1, lines 46-55).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 2-3, 9-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,122,639 to Babu et al.

16. With regards to claim 2, Babu teaches defining a type of device (column 1, lines 46-55). Instantiating an object of a class defining a type of device, and wherein said step of executing code includes calling a method of said instantiated class, would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

17. With regards to claim 3, Babu et al. teaches creating a unique identifier for the device (column 1, lines 46-55). It would have been obvious to one of ordinary skill in the art at the time of invention that call a second method of said instantiated class to create a unique identifier for the device as object oriented programming was well known in the art.

18. With regards to claim 9, Babu et al. at least one processor for executing code (Fig. 5, element 504); a plurality of data structures (Fig. 2, element 40), wherein each of said data

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structure respectively defines a type of device (Fig. 2, element 44); code for removing a class identifier from each of said data structures (column 8, lines 7-24, and column 2, line 65, through column 3, line 10), wherein said class identifier identifies a respective class; and determining whether a device associated with said I/O path is the type of device defined by said data structure associated with said respective instantiated object of said method (column 2, line 65, through column 3, line 10). Code for instantiating an object of said respective class of each class identifier and code for calling a method of each instantiated object would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

19. With regards to claim 10, code for creating an array of handles to said instantiated objects would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

20. With regards to claim 11, code for removing a handle from said array of handles would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

21. With regards to claim 12, Babu teaches each object instance is operable to communicate with a host agent to obtain information utilized to determine whether said device is the type of device associated with the respective data structure (column 2, line 65, through column 3, line 54).

22. With regards to claim 13, API interfaces were well known in the art at the time of invention as an application to facilitate a device interface.

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23. With regards to claim 14, Babu teaches retrieving a plurality of property files from a predefined subdirectory, wherein each property file of said plurality of property files describes a type of device (Fig. 3, elements 302-314, column 2, line 64, through column 3, line 10, and column 3, lines 45-47). Babu teaches determining whether a device associated with said I/O path is the type of device described by the property file associated with said object method (column 2, line 64, through column 3, line 10). Removing a class identifier from each property file of said property files, wherein each class identifier identifies a class; creating object of the respective class of each class identifier; and calling a method of each created object would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

24. With regards to claim 15, Babu teaches adding a new storage device to said storage area network (column 1, lines 44-55), wherein said new storage device is caused to be associated with said I/O path, and wherein said new storage device is a new type of device to said storage area network, and storing a new property file in said predefined subdirectory describing said new type of device (column 2, line 64, through column 3, lines 67). The restarting code of a management server to thereby cause repetition of steps utilizing said new property file, is inherent to the continued running of the process to track and update device information (column 4, lines 51-64).

25. With regards to claim 17, Babu teaches a default property file of said plurality of property files identifies a simple network management protocol (SNMP) class, wherein said default SNMP class defines a method to identify devices by a comparing a SNMP system object identifier to at least one field in said default property file (Fig. 5, column 8, lines 7-24, and column 2, line 65, through column 3, line 54).

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26. Claims 4, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,122,639 to Babu et al. in further view of U.S. Patent Application Publication No. US 2002/0161852 to Allen et al.

27. With regards to claim 4, Babu fails to explicitly teach the use of SCSI identifiers. Allen teaches that SCSI devices are well known in the art, and the step of retrieving including obtaining a vendor identifier and a product identifier of said device from a host agent (page 4, paragraph 30). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the SCSI identifiers of Allen with the Device defining of Babu in order to accommodate new device types according to an agreed upon protocol.

28. With regards to claim 16, Babu fails to explicitly teach the use of SCSI identifiers. Allen teaches that SCSI devices are well known in the art, and a default property file of said plurality of property files identifies a default small computer system interface (SCSI) class, wherein said default SCSI class defines a method to identify devices by comparing SCSI vendor identifier and product identifier information to at least one field in said default property file (page 4, paragraph 30). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the SCSI identifiers of Allen with the Device defining of Babu in order to accommodate new device types according to an agreed upon protocol.

29. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,122,639 to Babu et al. in further view of U.S. Patent Application Publication No. US 2002/0161852 to Allen et al.

30. With regards to claim 18, the AAPA teaches a storage area network (SAN) comprising: a plurality of servers, wherein said servers are communicatively coupled to a fabric of said SAN

(page 2, lines 12-24); Babu teaches host agent processes, wherein each of said host agent processes executes on a respective server of said plurality of servers, and wherein said host agent processes are operable to query devices associated with host logical unit numbers I/O paths of said SAN to gather device information (column 2, line 65, through column 3, line 54), a management server, wherein said management server employs a simple network management protocol (SNMP) manager process to query devices associated with SNMP I/O paths of said SAN to gather device information (column 3, lines 46-54), a plurality of property files stored in a predefined directory, wherein each property file of said plurality of property files describes a type of device, and wherein each property file of said plurality of property files includes an identifier of code operable to determine whether a device associated with an I/O path is the type of device described by its associated property file (column 2, line 65, through column 3, line 10), and, a management server process, wherein said management server process is operable to receive gathered device information from said plurality of host agent processes and from said SNMP manager process; and wherein said management server process is operable to call code identified by property files with gathered device information as arguments to thereby identify types of devices associated with I/O paths of said SAN (column 3, lines 46-67). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the plurality of servers of the AAPA with the device detection of Babu et al. in order for a network to be able to easily accommodate new device types in a network in which a change has occurred

31. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,122,639 to Babu et al. and the applicant admitted prior art (AAPA) in further view of U.S. Patent Application Publication No. US 2002/0161852 to Allen et al.

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32. With regards to claim 19, Babu teaches creating an array of identifiers including each said identifier from each property file (Fig. 5, column 8, lines 7-24, and column 2, line 65, through column 3, line 54). Allen teaches a plurality of small computer system interface (SCSI) device discovery objects utilizing identifiers from said array that identify SCSI device classes (page 4, paragraph 30), and Babu teaches a plurality of SNMP device discovery objects utilizing identifiers from said array that identify SNMP device classes. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the SCSI identifiers of Allen with the Device defining of Babu in order to accommodate new device types according to an agreed upon protocol. Code instantiating objects from an array of identifiers would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

33. With regards to claim 20, Babu fails to explicitly teach the use of SCSI identifiers. Allen teaches SCSI device discovery object for each host logical unit numbers I/O path (page 4, paragraph 30); and Babu teaches SNMP device discovery object for each SNMP I/O path (column 3, lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the SCSI identifiers of Allen with the Device defining of Babu in order to accommodate new device types according to an agreed upon protocol. Code calling a method of each instantiated object would have been obvious to one of ordinary skill in the art at the time of invention, as object oriented programming was well known in the art.

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kruse and Ryba, Data Structures and Program Design in C++, 1999, Simon and Schuster, 1st Edition, Chapters 4, 7, and 9

35. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

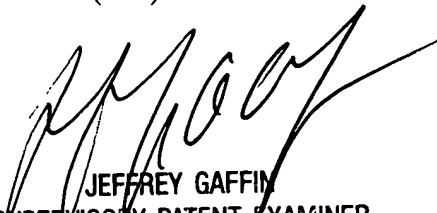
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D Schneider whose telephone number is (703) 305-7991. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on (703) 308-3301. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JDS


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100